ABB ABB Series Service Manual

DI801

1. Description

The DI801 is a 16 channel 24 V digital input module for the S800 I/O. This module has 16 digital inputs. The input voltage range is 18 to 30 volt d.c. and the input current is 6 mA at 24 V. The inputs are in one isolated group with sixteen channels and channel number sixteen can be used for voltage supervision input in the group. Every input channel consists of current limiting components, EMC protection components, input state indication LED and optical isolation barrier.

3. Product Information

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Features and benefits

16 channels for 24 V d.c. inputs with current sinking

1 isolated groups of 16 with voltage supervision

Input status indicators

Process and power connection via detachable connectors

General info

Article number 3BSE020508R1

Type Digital Input

Signal specification 24V d.c.

Number of channels 16

Signal type Current sinking

HART No

SOE No

Redundancy No

High integrity No

Intrinsic safety No

Mechanics S800L

Detailed data

Input voltage range, "0" -30 .. +5 V

Input voltage range, "1" 15 .. 30 V

Input impedance 3.5 kΩ

Isolation Groupwise isolated from ground

Filter times (digital, selectable) 2, 4, 8, 16 ms

Maximum field cable length 600 meters (656 yards)

Rated insulation voltage 50 V

Dielectric test voltage 500 V

Power dissipation Typ 2.2 W

Current consumption +5 V Modulebus 70 mA

Current consumption +24 V Modulebus 0

Supported wire size Solid: 0.05-2.5 mm², 30-12 AWG

Stranded: 0.05-1.5 mm², 30-12 AWG

Recommended torque: 0.5-0.6 Nm

Stripping length 6-7.5mm, 0.24-0.30 inch

Diagnostics

Front LED's S(tatus) (run or fault), Channel 1-16 ("0" or "1")

Supervision Process voltage supervision on channel 16

Status indication of supervision Module Error, Module Warning, Channel Error

Environment and certification

CE mark Yes

Electrical safety EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201

Hazardous Location C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2

Marine certification ABS, BV, DNV, LR

Temperature, Operating 0 to +55 °C (+32 to +131 °F), approvals are issued for +5 to +55 °C

Temperature, Storage -40 to +70 °C (-40 to +158 °F)

Pollution degree Degree 2, IEC 60664-1

Corrosion protection ISA-S71.04: G3

Relative humidity 5 to 95 %, non-condensing

Max ambient temperature 55 °C (131 °F), for vertical mounting 40 °C (104 °F)

Protection class IP20 according to IEC 60529

Mechanical operating conditions IEC/EN 61131-2

EMC EN 61000-6-4 and EN 61000-6-2

Overvoltage categories IEC/EN 60664-1, EN 50178

Equipment class Class I according to IEC 61140; (earth protected)

RoHS compliance DIRECTIVE/2011/65/EN (EN 50581:2012)

WEEE compliance DIRECTIVE/2012/19/EU

Dimensions

Width 86.1 mm (3.4”)

Depth 58.5 mm (2.3”)

Height 110 mm (4.33”)

Weight 0.24 kg (0.53 lbs.)